

What is claimed is :

1. A vertebral arthrodesis device comprising at least one pin designed to be positioned along the vertebrae that are to be immobilized, and parts for anchoring this pin to the vertebrae, each anchoring part presenting a head that delimits a cavity for receiving the pin and that receives the tightening means of the pin in said cavity, the assembly allowing the possibility of clearing the pin with relation to the anchoring part before tightening of the said tightening means, and the possibility of immobilizing this head with relation to this anchoring part in a given position, when this tightening is performed ;

The device characterized in that :

- The device comprises rings in a spherical form in a number equal to that of the anchoring parts, each ring presenting an inside diameter allowing its engagement slidably on the pin and a plurality of slots distributed on its periphery, these slots extending between the outer surface of the ring and the said inside diameter and opening alternatively at one of the longitudinal openings of this inside diameter and at the other of these longitudinal openings ;
- The head of each anchoring part is shaped so that the said cavity that the head delimits may receive one of said rings with snap-on installation, and presents at least two lateral threaded holes opening from its proximal surface ; and

- Each anchoring part comprises a clamping ring shaped for positioning on the said head by overlapping the said ring, this clamping ring comprising lateral holes appropriate for coinciding with the threaded holes of the head and for receiving the tightening screws that can be screwed in these threaded holes, this clamping ring furthermore presenting a cone-shaped central aperture allowing the clamping ring to come into contact with the ring in the course of tightening of the said screws, so that this clamping ring tightens this ring between itself and the said head.
- 2. The device according to claim 1, characterized in that the head of each anchoring part comprises at least one slot opening in the bottom of the said cavity, giving the cavity a slight flexibility in a direction perpendicular to that according to which this cavity opens on the outside of the head.
- 3. The device according to claim 2, characterized in that the head of each anchoring part comprises two lateral slots opening in the bottom of the said cavity.
- 4. The device according to claim 3, characterized in that each slot is inclined in the direction of the other slot so that these slots converge in the direction of the bottom of the cavity.
- 5. The device according to claim 1, characterized in that the cavity of each anchoring part is delimited by a wall in the form of a hollow sphere segment presenting a diameter slightly less than that of each ring.
- 6. The device according to claim 5, characterized in that the cavity of each anchoring part is bordered by two

lateral undercuts in the form of a segment of a hollow sphere, allowing, in the snap-on installation position of the ring, clearance of the pin with relation to the corresponding anchoring part.

7. The device according to claim 1, characterized in that the head of each anchoring part presents an enlarged form extending in a direction perpendicular to the direction according to which the cavity opens on the outside of the head, so that the form delimits two thick lateral walls, in the proximal surfaces of which said threaded holes are provided.